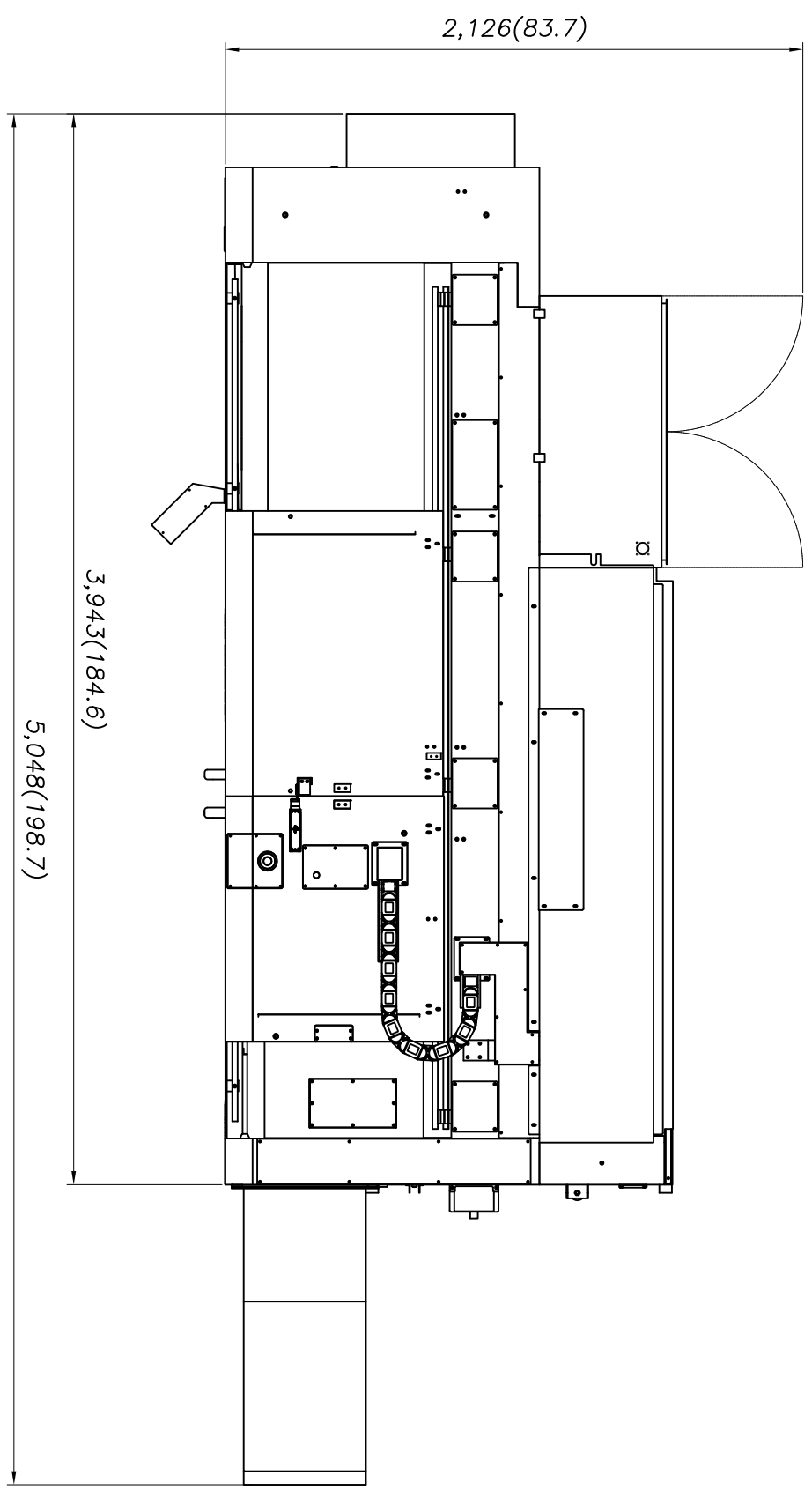
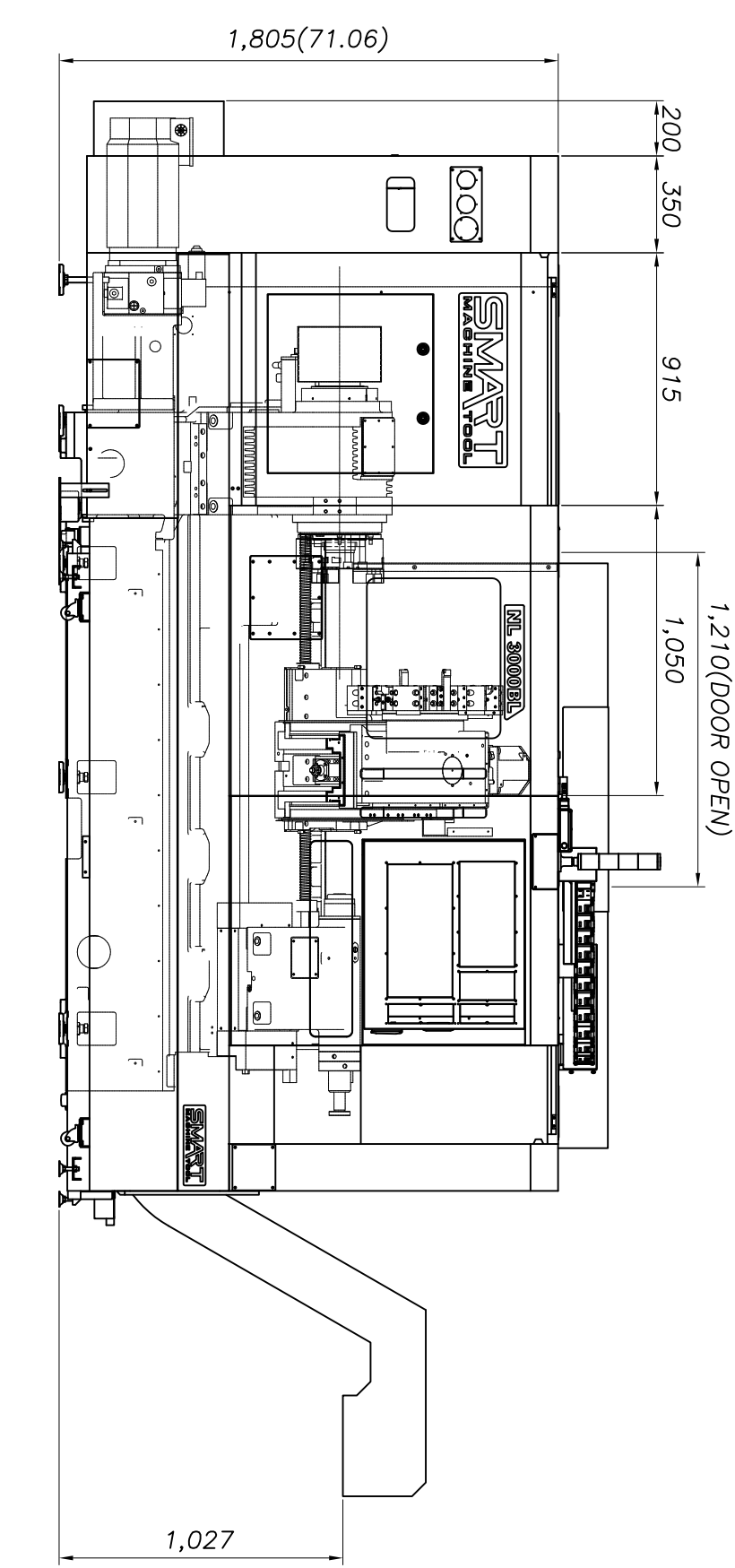
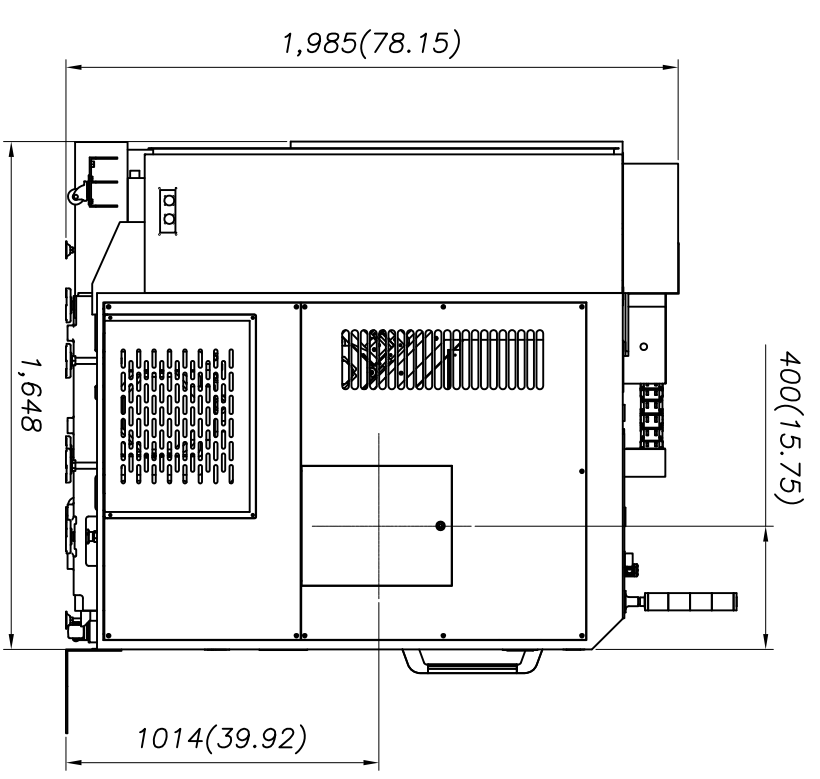


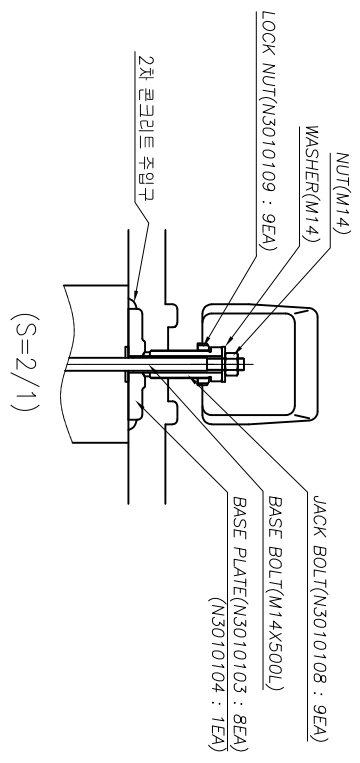
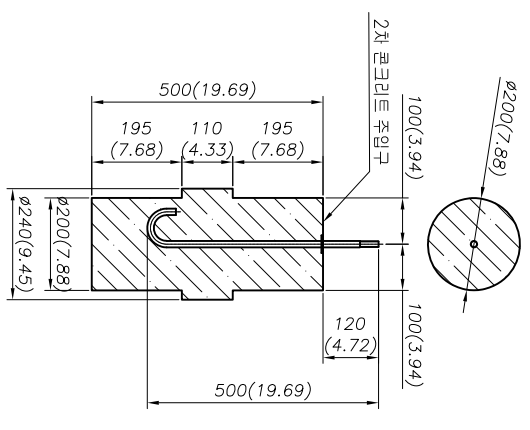
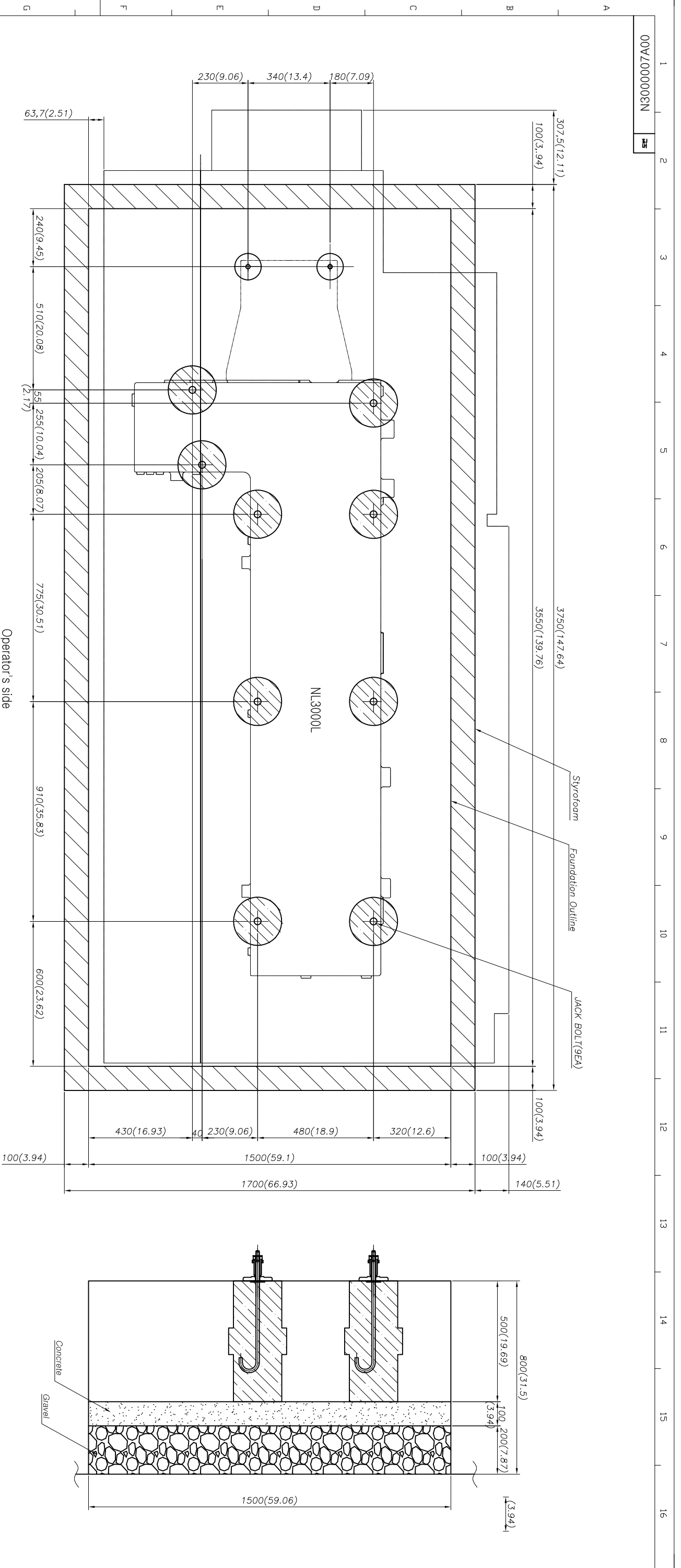
SMART
MACHINE TOOL

NL2500/1100

**Installation
Packet**



APP#	D	J.W. SHIN	GENERAL TOLERANCE HEAT TREATMENT	DATE	2018.12.20
REV#	0		0.5- 6±0.1	DES'N	DUS PARK
REV#	1		6- 30±0.2	CHE'N	CHUN
REV#	2		30- 120±0.2	CHK	KORLE
REV#	3		120- 315±0.2	DATE	2018.12.20
REV#	4		315-1000±0.3	DES'N	DUS PARK
REV#	5		1000-2000±1.2	CHK	CHUN
REV#	6		2000-5000±1.2	CHK	KORLE
REV#	7		5000-8000±1.2	DATE	2018.12.20
REV#	8		8000-10000±1.2	DES'N	DUS PARK
REV#	9		10000-15000±1.2	CHK	CHUN
REV#	10		15000-20000±1.2	CHK	KORLE
REV#	11		20000-30000±1.2	DATE	2018.12.20
REV#	12		30000-40000±1.2	DES'N	DUS PARK
REV#	13		40000-50000±1.2	CHK	CHUN
REV#	14		50000-60000±1.2	CHK	KORLE
REV#	15		60000-70000±1.2	DATE	2018.12.20
REV#	16		70000-80000±1.2	DES'N	DUS PARK
REV#	17		80000-90000±1.2	CHK	CHUN
REV#	18		90000-100000±1.2	CHK	KORLE
REV#	19		100000-150000±1.2	DATE	2018.12.20
REV#	20		150000-200000±1.2	DES'N	DUS PARK
REV#	21		200000-300000±1.2	CHK	CHUN
REV#	22		300000-400000±1.2	CHK	KORLE
REV#	23		400000-500000±1.2	DATE	2018.12.20
REV#	24		500000-600000±1.2	DES'N	DUS PARK
REV#	25		600000-700000±1.2	CHK	CHUN
REV#	26		700000-800000±1.2	CHK	KORLE
REV#	27		800000-900000±1.2	DATE	2018.12.20
REV#	28		900000-1000000±1.2	DES'N	DUS PARK
REV#	29		1000000-1500000±1.2	CHK	CHUN
REV#	30		1500000-2000000±1.2	CHK	KORLE
REV#	31		2000000-3000000±1.2	DATE	2018.12.20
REV#	32		3000000-4000000±1.2	DES'N	DUS PARK
REV#	33		4000000-5000000±1.2	CHK	CHUN
REV#	34		5000000-6000000±1.2	CHK	KORLE
REV#	35		6000000-7000000±1.2	DATE	2018.12.20
REV#	36		7000000-8000000±1.2	DES'N	DUS PARK
REV#	37		8000000-9000000±1.2	CHK	CHUN
REV#	38		9000000-10000000±1.2	CHK	KORLE
REV#	39		10000000-15000000±1.2	DATE	2018.12.20
REV#	40		15000000-20000000±1.2	DES'N	DUS PARK



Note1) This drawing shows the standard foundation. Modify the concrete thickness according to ground condition.
 Before the first concrete is completely dry, chamfer the area facing the outside of the machine by approximately 100 mm.
 Concrete strength (28 days after placing concrete) should be 20.6 Mpa(2986.2 psi) or more.

Note2) Because 100 mm(3.94 inch) of styrofoam must adhere to the inside surface of ditch, dig the foundation 100 mm(3.94 inch) outside of the outline of the foundation.

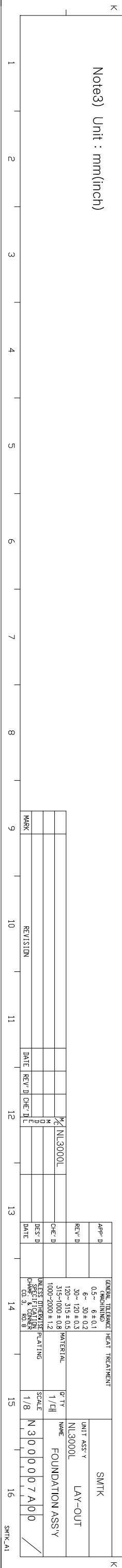
Note3) Unit : mm(Inch)

MARK	REVISION	DATE	REV'D	CHE' D	DATE	REV'D	CHE' D	DATE	REV'D	CHE' D	DATE

APP'D	DES'G	DATE	REV'D	CHE' D	DATE	REV'D	CHE' D	DATE	REV'D	CHE' D	DATE

GENERAL TITLE	DESIGN	HEAT TREATMENT	UNIT ASS'Y	LAY-OUT
SMITK	NL3000L		NL3000L	FOUNDATION ASS'Y

SCALE	SCALE	SCALE	SCALE	SCALE
1/8	1/8	1/8	1/8	1/8



Packing Information (Update date: 2024-02-23)

NO.	Model	Model (Short)	Description	PART NAME	CBM	NET WEIGHT (KGS)	PACKING WEIGHT (KGS)	GROSS WEIGHT (KGS)
1	NL1500/2000/2000B (USA only)	NL1500/2000/2000B	Machine	3,600(L) X 2,300(W) X 2,250(H)	18.63	3,900	530	4,430
2	NL1500M/2000M/2000BM (USA only)	NL1500M/2000M/2000BM	Machine	3,600(L) X 2,300(W) X 2,250(H)	18.63	4,200	530	4,730
3	NL2000ASY	NL2000ASY	Machine + Chip conveyor	5,300(L) X 2,300(W) X 2,475(H)	30.17	5,700	700	6,400
4	NL2000BSY	NL2000BSY	Machine + Chip conveyor	5,300(L) X 2,300(W) X 2,475(H)	30.17	5,800	700	6,500
5	NL2500SY	NL2500SY	Machine + Chip conveyor	5,300(L) X 2,300(W) X 2,475(H)	30.17	6,100	700	6,800
6	NL2500/750	NL2500	Machine + Chip conveyor	5,100(L) X 2,300(W) X 2,250(H)	26.39	5,700	660	6,360
7	NL2500M/750	NL2500M	Machine + Chip conveyor	5,100(L) X 2,300(W) X 2,250(H)	26.39	5,900	660	6,560
8	NL2500/1100	NL2500L	Machine + Chip conveyor	5,550(L) X 2,300(W) X 2,250(H)	28.72	6,900	720	7,620
9	NL2500M/1100	NL2500LM	Machine + Chip conveyor	5,550(L) X 2,300(W) X 2,250(H)	28.72	7,100	720	7,820
10	NL3000B/750	NL3000B	Machine + Chip conveyor	5,100(L) X 2,300(W) X 2,250(H)	26.39	5,700	660	6,360
11	NL3000BM/750	NL3000BM	Machine + Chip conveyor	5,100(L) X 2,300(W) X 2,250(H)	26.39	5,900	660	6,560
12	NL3000B/1100	NL3000BL	Machine + Chip conveyor	5,550(L) X 2,300(W) X 2,250(H)	28.72	6,900	720	7,620
13	NL3000BM/1100	NL3000BLM	Machine + Chip conveyor	5,550(L) X 2,300(W) X 2,250(H)	28.72	7,100	720	7,820
14	NL4000M/1200	NL4000M	Machine	4,800(L) X 2,300(W) X 2,450(H)	27.05	10,800	650	11,450
15	NL4000/1200 C/C	NL4000 C/C	Chip conveyor	4,250(L) X 950(W) X 1,500(H)	6.06	800	70	870
16	NL4000M/2200	NL4000LM	Machine	6,000(L) X 2,300(W) X 2,450(H)	33.81	13,700	750	14,450
17	NL4000(M)/2200 C/C	NL4000L/LM C/C	Chip conveyor	5,450(L) X 950(W) X 1,600(H)	8.21	1,000	100	1,100
18	NL4000Y/2200	NL4000LY	Machine	6,000(L) X 2,300(W) X 2,950(H)	40.71	15,000	650	15,650
19	NL4000Y/2200 C/C	NL4000LY C/C	Chip conveyor	5,450(L) X 950(W) X 1,880(H)	9.73	1,000	100	1,100
20	NL4000(M)/3200	NL4000XL/XLM	Machine	7,000(L) X 2,300(W) X 2,550(H)	41.06	16,800	1,500	18,300
21	NL4000(M)/3200 C/C	NL4000XL/XLM C/C	Chip conveyor	6,450(L) X 1,150(W) X 1,600(H)	11.87	1,200	100	1,300
22	NL5000/1200	NL5000	Machine	4,800(L) X 2,300(W) X 2,450(H)	27.05	10,800	650	11,450
23	NL5000M/1200	NL5000M	Machine	4,800(L) X 2,300(W) X 2,450(H)	27.05	10,900	650	11,550
24	NL5000(M)/1200 C/C	NL5000/M C/C	Chip conveyor	4,250(L) X 950(W) X 1,500(H)	6.06	800	70	870
25	NL5000/2200	NL5000L	Machine	6,000(L) X 2,300(W) X 2,450(H)	33.81	13,700	750	14,450
26	NL5000M/2200	NL5000LM	Machine	6,000(L) X 2,300(W) X 2,450(H)	33.81	13,800	750	14,550
27	NL5000(M)/2200 C/C	NL5000L/LM C/C	Chip conveyor	5,450(L) X 950(W) X 1,600(H)	8.21	1,000	100	1,100
28	NL5000(M)/3200	NL5000XL/XLM	Machine	7,000(L) X 2,300(W) X 2,550(H)	41.06	16,900	1,500	18,400
29	NL5000(M)/3200 C/C	NL5000XL/XLM C/C	Chip conveyor	6,450(L) X 1,150(W) X 1,600(H)	11.87	1,200	100	1,300
30	NL6000/750(M) C/C	NL6000S/SM C/C	Chip conveyor + Rear cover	3,950(L) X 2,300(W) X 1,750(H)	15.90	1,800	130	1,930
31	NL6000(M)/1500 C/C	NL6000/M C/C	Chip conveyor + Rear cover	4,850(L) X 2,300(W) X 1,600(H)	17.85	2,150	150	2,300
32	NL6000(M)/2200 C/C	NL6000L/LM C/C	Chip conveyor + Rear cover	5,550(L) X 2,300(W) X 1,750(H)	22.34	2,250	250	2,500
33	NL6000(M)/3200 C/T	NL6000XL/XLM C/T	Coolant tank + Rear cover	5,600(L) X 2,300(W) X 950(H)	12.24	2,650	350	3,000
34	NV5500L C/C	NV5500L C/C	Chip conveyor	4,880(L) X 1,150(W) X 750(H)	4.21	900	100	1,000

MACHINE MODEL	KVA	AMPS @ 220V	AMPS @480V	Coolant	Slideways	Hyd. Unit	Transmission	Chuck	Oil for Air	Chiller oil
NL150/200/250	31	82	37	48	.79 gal	5.3 gal	n/a	.2 oz daily	N/A	N/A
NL1500(M)	31	82	37	48	.79 gal	5.3 gal	n/a	.2 oz daily	.6 oz	N/A
NL2000(M)	31	82	37	48	.79 gal	5.3 gal	n/a	.2 oz daily	.6 oz	N/A
NL2000A/B/S/Y	40	105	48	60	.79 gal	5.3 gal	n/a	.2 oz daily	.6 oz	4 gal
NL2500SY	50	131	60	60	.79 gal	5.3 gal	n/a	.2 oz daily	.6 oz	4 gal
NL2500S	40	105	48	48	.79 gal	5.3 gal	0.75	.2 oz daily	.6 oz	N/A
NL2500(M)	40	105	48	53	.79 gal	5.3 gal	0.75	.2 oz daily	.6 oz	N/A
NL2500/1100	40	105	48	63	.79 gal	5.3 gal	0.75	.2 oz daily	N/A	N/A
NL3000(M)	40	105	48	63	.79 gal	5.3 gal	0.75	.2 oz daily	N/A	N/A
NL3500BY	55	144	66	101	.79 gal	6.6	n/a	.2 oz daily	N/A	N/A
NL4000(M)	55	144	66	63	.79 gal	6.4 gal	0.75	.2 oz daily	N/A	N/A
NL5000(M)	55	144	66	63	.79 gal	6.4 gal	0.75	.2 oz daily	N/A	N/A
NL5000L(M)	65	170	78	130	.79 gal	6.4 gal	0.75	.2 oz daily	N/A	N/A
NL6000(M)	65	170	78	105	.79 gal	15 gal	0.75	.2 oz daily	N/A	N/A
NL6000L(M)	65	170	78	150	.79 gal	15 gal	0.75	.2 oz daily	N/A	N/A
NL6000XL(M)	65	170	78	180	.79 gal	15 gal	0.75	.2 oz daily	N/A	N/A
NL7000L(M)	65	170	78	150	.79 gal	15 gal	2 gal	.2 oz daily	N/A	N/A
NL7000XL(M)	65	170	78	180	.79 gal	15 gal	2 gal	.2 oz daily	N/A	N/A
					Shell Oil T68		Mobil Oil Light			
					Mobil Vactra#2	Mobil DTE 24	ISO VG 32	SW10	DTE Ligh	Velocity 6
					check daily	check daily	check daily	grease daily	check daily	Check Daily

Air requirements: 80-100 psi, 5-10 CFM

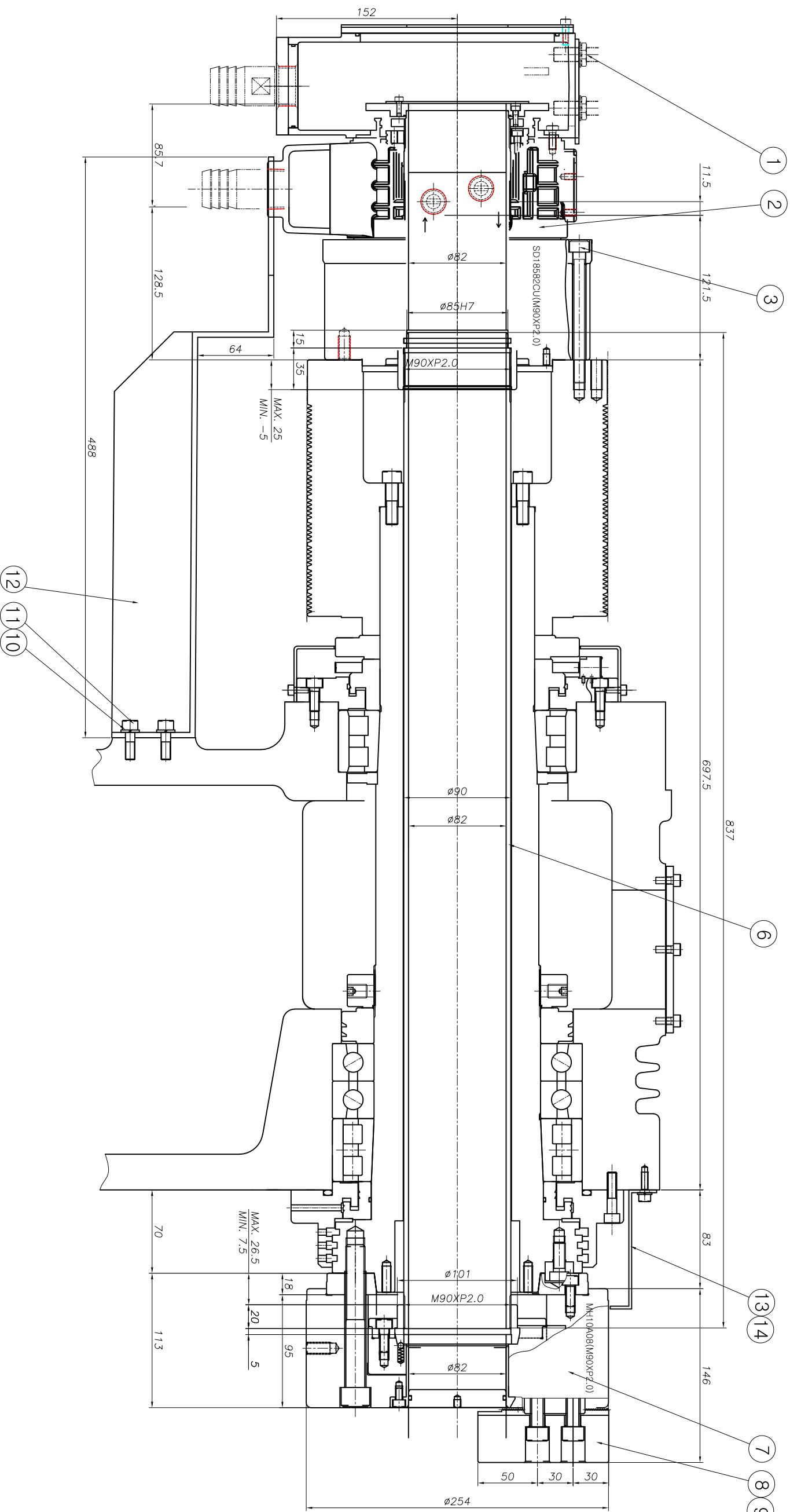
Coolant only fluid required at install

Voltage : 220V +/- 10% (480V requires transformer)

CYLINDER SPECIFICATION	
CYLINDER INSIDE DIAMETER	185 mm
PISTON STROKE	30 mm
PISTON THRUST	PUSH (8700 kgf) PULL (8100 kgf)
유압력 (40.8 kgf/cm ²)	4.5 MPa
최고유압력	4.5 MPa
최고회전수	4800 rpm
WEIGHT	28kgf
Moment of inertia	0.11 kg·m ²
ISO VG.32, 50° 3.0MPa	3.5 liter/min

CHUCK SPECIFICATION	
PLUNGER STROKE	19 mm
JAW STROKE (직경)	8.8 mm
PLUNGER 허용추력	4676kgf (46kN)
최대 피압력	12848kgf (128.6kN)
최고 회전수	4500 r.p.m.
WEIGHT (SOFT JAW 부착)	36 kgf
G.D ² (SOFT JAW 부착)	0.329 kgf·m ²
최고 회전중 피압력	3.350kgf
사용 CYLINDER	SD-18582
최대 설정 유압력	28 kgf/cm ²

NO.	DWG NO.	NAME	MAT'L	Q'TY	REMARK
1	N2590805A00	PROXIMITY SWITCH		2	FL7M-3J6HD-C
2	N2590802A00	HYD. CYLINDER		1	SD18582CU+18CS
3	S0221011	SOCKET HEAD BOLT		6	M10X110
4					
5					
6	N2590102B00	DRAW PIPE	STKM13C	1	
7	N2590801A00	HYD. CHUCK		1	MH10A08(M90XP2.0)
8	N2590803A00	HARD JAW		1	SB10B1
9	M2590804A00	SOFT JAW		3	HB10A1
10	S0210825	SOCKET HEAD BOLT		4	M8X25
11	S2530800	SPRING WASHER		4	M8
12	N2590103A00	BRACKET	SS400	1	
13	N2590104A00	CHUCK COVER	SCP1	1	
14	S0210612	SHB		3	M6X12



NOTE

- NL2500 10" HOLLOW CHUCK 사양임.
- CHUCK & CYLINDER SPEC. (삼원리)
2.1 HYD. CHUCK : MH210A08(M90XP2.0)
2.2 HYD. CYLINDER : SD18582CU+SD-18CS(M90XP2.0)
- 주축관동경 $\phi 91$, 4,300rpm 사양임.

REV	DATE	REV'D	CHE' D	REVISION	MARK
002	2019.2.13			CHUCK ADAPTOR 4X4, PULLEY 변경	
001	2019.2.13				

REV	DATE	REV'D	CHE' D	REVISION	MARK
002	2019.2.13			CHUCK ADAPTOR 4X4, PULLEY 변경	
001	2019.2.13				

APP'D	DATE	DES'N	DATE	CHK'D	DATE	CHK'D	DATE
J.W. SHIN	2019.2.13	D.S. PARK	2019.2.13				

GENERAL TOLERANCE	HEAT TREATMENT	UNIT ASS'Y
0.5~ 6 ± 0.1		SMTK
6~ 30 ± 0.2		
30~ 120 ± 0.3		
120~ 315 ± 0.5		
315~ 1000 ± 0.8		
1000~ 2000 ± 1.2		
2000~ 5000 ± 1.5		
5000~ 10000 ± 2.0		
10000~ 20000 ± 3.0		
20000~ 50000 ± 4.0		
50000~ 100000 ± 5.0		
100000~ 200000 ± 6.0		
200000~ 500000 ± 7.0		
500000~ 1000000 ± 8.0		
1000000~ 2000000 ± 9.0		
2000000~ 5000000 ± 10.0		
5000000~ 10000000 ± 11.0		
10000000~ 20000000 ± 12.0		
20000000~ 50000000 ± 13.0		
50000000~ 100000000 ± 14.0		
100000000~ 200000000 ± 15.0		
200000000~ 500000000 ± 16.0		
500000000~ 1000000000 ± 17.0		
1000000000~ 2000000000 ± 18.0		
2000000000~ 5000000000 ± 19.0		
5000000000~ 10000000000 ± 20.0		